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EXECUTIVE SUMMARY

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DRAFT ENVIRONMENTAL IMPACT REPORT

KINGSTON BEDFORD ESSEX STREET DEVELOPMENT

EOEA NO. 6132

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March 1989

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EOEA NO. 6132

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EXECUTIVE SUMMARY

Submitted by

BOSTON REDEVELOPMENT AUTHORITY

April 1989

Prepared by the Boston Redevelopment Authority, in association with

- Howard/Stein-Hudson Associates
- Kramer Associates
- Rowan Williams Davies and Irwin, Inc.
- Sasaki Associates, Inc.
- WCH Industries, Inc.

City of Boston
Raymond L. Flynn
Mayor

Boston Redevelopment Authority
Joseph J. Walsh, Vice Chairman
Michael F. Donlan, Vice Chairman, Subcommittees
James K. Flaherty, Treasurer
Clarence J. Jones, Assistant Treasurer
Francis X. O'Brien, Member
Kane Simonian, Secretary
Stephen Coyle, Director

I. Executive Summary

A. Project Overview

This Draft Environmental Impact Report (DEIR) investigates the impacts associated with several proposed alternatives for the development of the Kingston-Bedford-Essex Street site, located between Chinatown and the Financial District in downtown Boston. The project proponents are the Boston Redevelopment Authority and the developer, the Metropolitan/Columbia Plaza Venture.

The Kingston-Bedford-Essex Street site is one of the few remaining downtown sites which is owned by the City of Boston and is available for development. A parking garage stands on the northern half of the block bounded by Bedford, Kingston, Essex, and Columbia Streets. Another City-owned parcel, at the corner of Essex, Lincoln, and Columbia Streets, currently serves as a parking lot. Three privately-owned parcels also are considered potentially available for development. They include 80 and 88 Kingston Street, adjacent to the Kingston-Bedford garage, and 128 Essex Street, a privately-owned parking lot. Figure I-1 shows the site location and surrounding area.

As proposed, the project, is principally a commercial development. Preliminary plans call for a mix of office space, retail shops, parking, and a network of attractive public spaces and pedestrian walkways that provide easy access to buildings in the Financial District and Chinatown. Several alternatives also consider the development of a hotel. Six alternatives are examined in this DEIR, including a no build alternative which continues the existing uses of the site and five build options offering a range of development scenarios. In three of the build alternatives, only the publicly-owned property is developed. In the two other build alternatives all the above-mentioned parcels are developed.

B. Environmental Review Process

Because the Kingston-Bedford-Essex Street project is considered a major development, the Massachusetts Executive Office of Environmental Affairs (EOEA) has determined that the project requires the preparation of an Environmental Impact Report in accordance with the Massachusetts Environmental Policy Act (MEPA) and its implementing regulations (301 CMR 11.00).

The alternatives and the categories of impacts to be studied, such as traffic generation, demands on utilities, and construction management, were defined by the EOEA in response to a filing of an Environmental Notification Form (ENF) by the Boston Redevelopment Authority (BRA). The Executive Office of Environmental Affairs requested that the BRA study four alternatives for development of the site. In response to community suggestions for lower building height and greater site coverage, a fifth alternative was adopted during the EIR scoping process. Subsequent to EOEA's scoping, Metropolitan/Columbia Plaza Venture was selected as the project developer and submitted a sixth alternative, which is also included in this report.

The Draft Environmental Impact Report presents the environmental and socioeconomic consequences associated with implementation of each alternative. No preference for a particular alternative is presented in this DEIR in order to allow the review process to evaluate alternatives on an equal basis. This report will serve as an information source for planners, citizens, and developers to use in weighing the beneficial and adverse effects of preliminary designs and in evaluating whether individual elements, when aggregated, satisfy project objectives and the needs of the community.

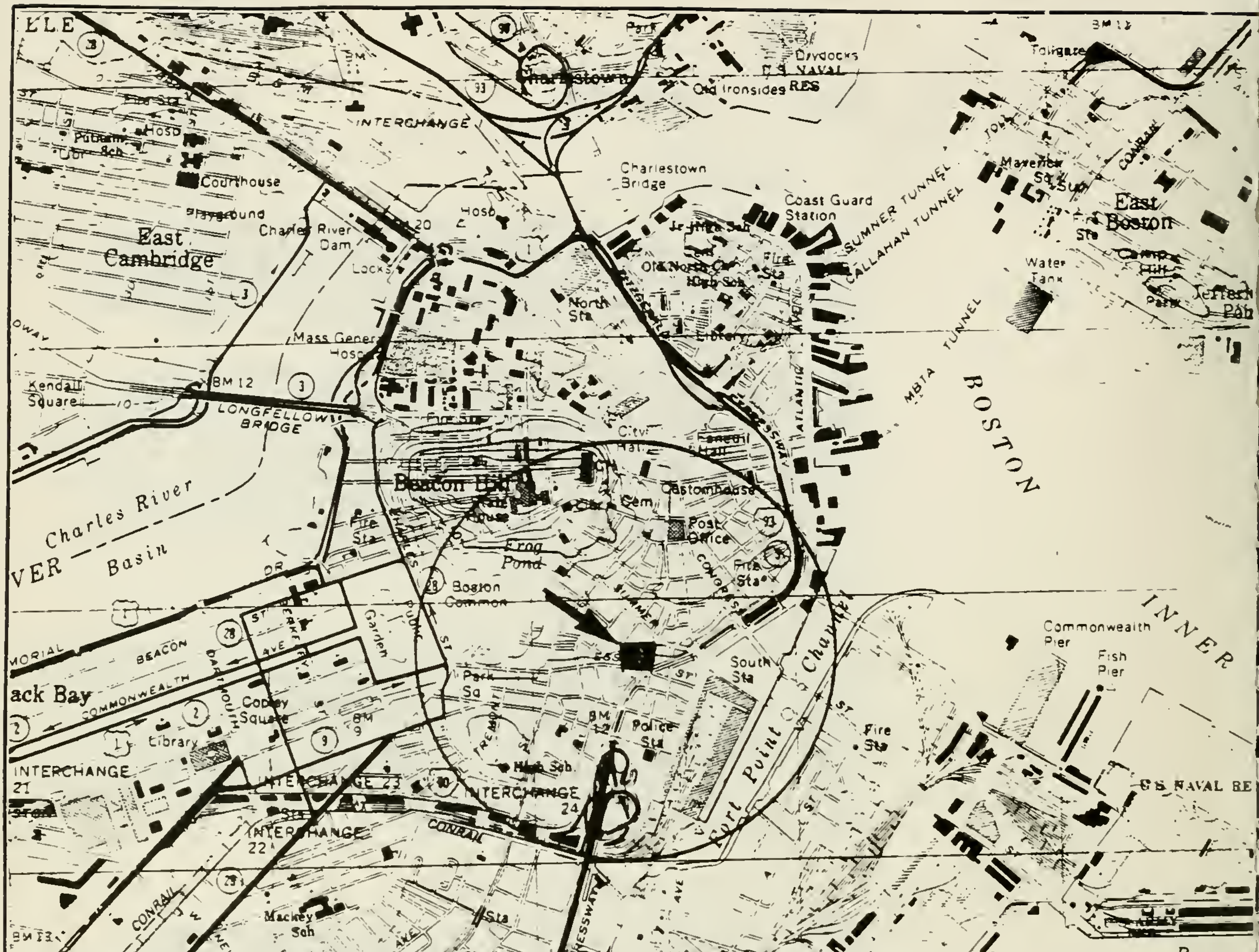

Figure I-1:
Kingston-Bedford-Essex Street Site Location Map

Following submittal of the DEIR and review by the community and the Executive Office of Environmental Affairs, a preferred alternative will be selected with the full knowledge of the environmental impacts and socio-economic considerations. Mitigation measures and recommendations resulting from this review will become input for the actual design of the project.

Metropolitan/Columbia Plaza Venture will prepare a Final Environmental Impact Report which will present a single preferred proposal that incorporates the findings of this DEIR, comments from the community and public agencies, and recommendations by the Executive Office of Environmental Affairs.

C. Project Background

Parcel-to-Parcel Linkage

Development of the Kingston-Bedford-Essex Street site is significant because it is Boston's first Parcel-to-Parcel Linkage Project. This project, since its inception, has been linked to the development of Parcel 18 in Roxbury.

In 1985, the Flynn and Dukakis administrations introduced the concept of "Parcel-to-Parcel Linkage" to: (1) spread the benefits of development more evenly throughout Boston; (2) promote neighborhood economic development; and (3) increase opportunities for minorities to benefit from real estate development. The program links the development of valuable, publicly-owned parcels downtown to the development of publicly-owned parcels in disadvantaged neighborhoods. It also requires that community organizations, minority developers, and entrepreneurs become equity partners for the simultaneous development of both parcels.

In June of 1987, the City and State selected Columbia Plaza Associates (CPA) to serve as the minority development partner for both Parcel 18 and the Kingston-Bedford-Essex Street projects. Columbia Plaza Associates is a partnership of Asian-American, Black, and Hispanic entrepreneurs. Each entrepreneurial group in the partnership includes community-based organizations as shareholders.

Columbia Plaza Associates, in turn, selected Metropolitan Structures as its joint venture partner from a field of three nationally prominent developers. CPA holds a fifty percent equity position in the project, exceeding the thirty percent share required by the City.

Community Participation

The Chinatown/South Cove Neighborhood Council and the Parcel 18+ Task Force have worked diligently with the BRA to develop the Parcel-to-Parcel Linkage Program and advise the BRA on all aspects of these projects, including developer selection.

The Chinatown and Roxbury groups formed the Parcel-to-Parcel Linkage Advisory Panel. Also participating in the panel are the BRA, the MBTA, the City of Boston Real Property and Public Facilities Departments, the Governor's Office of Economic Development, the Mayor's Office of Neighborhood Services, and the Mayor's Office of Jobs and Community Services. The panel has established subcommittees on (1) jobs and jobs training; (2) minority business enterprise; and, (3) childcare. The Metropolitan/Columbia Plaza Venture has worked closely with the Advisory Panel to shape the direction of the two projects and, in particular, to refine a benefits plan for the two communities.

Community Benefits

The community benefits plan is the most wide-ranging in the City's history. When implemented, it will encompass programs to build affordable housing, fund job training programs, stimulate minority business opportunities, and provide child care facilities. The major components of the plan are highlighted below.

Community Development Fund

The Metropolitan/Columbia Plaza Venture will contribute 10 percent of the developer's fee, 5 percent of the net operating income, and 10 percent of the residuals and sales proceeds to a Community Development Fund. Alternatively, a contribution may be made as an up-front lump sum payment or as annual cash distributions in fixed dollar amounts. Funds will be used to leverage local business expansion, affordable housing, social services, and other community-based projects in Chinatown and Roxbury.

Housing Linkage

The City of Boston requires that developers contribute $5 per square foot of commercial development over 100,000 square feet toward the creation of affordable housing. Development of the Kingston-Bedford-Essex Street and the Parcel 18 sites will generate $7.5 million in housing linkage funds to be shared equally by Chinatown and Roxbury.

Jobs and Job Training

The Kingston-Bedford-Essex Street and Parcel 18 projects are expected to generate 4,000 construction jobs. The developer will seek to achieve hiring goals which specify that at least 50 percent of total employee hours of all construction jobs created be held by Boston residents, 30 percent by minorities, and 10 percent by women.

The two projects eventually will support 6,200 permanent jobs and generate $1.5 million in job training linkage funds for residents of Chinatown and Roxbury. Developers are required to contribute to a job-training fund of $1 per square foot for commercial developments over 100,000 square feet. The Metropolitan/Columbia Plaza Venture intends to apply the funds directly to the training of community residents for permanent employment opportunities in the project. In addition, the Venture will join the Boston for Boston Program, a resident hiring program carried out by the Office of Jobs and Community Services, and will encourage project tenants to make best faith efforts to direct new jobs to local residents.

The benefits package also contains three other employment features. First, Metropolitan/Columbia Plaza Venture is offering a $400,000 grant for on-the-job training in real estate development. Second, 30 percent of consultant contracts, estimated at $18.5 million, will be targeted to certified minority- and women-owned businesses. And third, the Venture will seek ways to encourage minority-owned businesses to occupy space at both sites.

Child Care

Child care facilities will be provided for 100 children in Chinatown and 100 children in Roxbury. These facilities may be located on or off the project sites.

Planning Grant

The Metropolitan/Columbia Plaza Venture has pledged $100,000 to the Chinatown Neighborhood Council and the Parcel 18+ Task Force to facilitate greater participation over the next two years in project planning and review.

Overall, the community benefits which will accrue will exceed those proposed for any other project to be built in Boston. While mitigation measures typically seek to redress adverse impacts of a specific development, in the case of these two projects the community benefits will seek to address an even broader set of social concerns -- the economic revitalization and preservation of Boston's minority communities.

D. Environmental Setting

The Kingston-Bedford-Essex Street site lies at the juncture of five important Boston districts: Chinatown to the southwest, the Midtown Cultural District to the west, the Financial District to the immediate northeast, the Commercial Palace District to the north, and the Leather District across the Surface Artery to the southwest. Boston's downtown shopping district, including the Downtown Crossing retail center with its department stores and numerous smaller retail and service stores, is within walking distance of the site. Three hundred feet east of the site is South Station, a major subway, railroad, and bus facility serving the metropolitan and regional area. To the southwest of the project site is the Tufts-New England Medical Center complex on the edge of Chinatown.

The site has excellent road and public transit access. The Central Artery and Massachusetts Turnpike are close at hand, as are the Washington and South Station public transit stations.

The project site is situated on the original Shawmut Peninsula land mass. It is near the Colonial waterfront and was originally a fashionable residential area. Gradually, in the 1830's, the residential dwellings were replaced by granite warehouses, used for storing merchandise and materials. In 1872, a massive fire swept through Boston proper destroying more than 700 buildings, including the warehouses. Construction to replace them began immediately. Most of the new warehouses were five to six stories high, with fronts of granite and mansard roofs.

Today, located on the blocks which include the Kingston-Bedford-Essex Street site are two surface parking lots and four buildings -- the Bedford Building on the northeast, two masonry buildings on Kingston Street, and a nine-story parking garage on the northwest corner built and owned by the City.

E. Development Alternatives

Six alternatives were developed to test the implications of different land uses, building designs, and parcel sizes. The alternatives are:

Alternative 1:	No Build
Alternative 2:	400 ft. Tower
Alternative 3:	325 ft. Tower
Alternative 4:	250 ft. Tower
Alternative 5:	Expanded Site
Alternative 6:	Developer's Proposal

Under the No Build option, the site would remain as is. The key parameters which distinguish the five build alternatives are: (1) the height and location of the major office tower, (2) the number of towers, (3) the square footage of site actually developed, and (4) the final disposition of Columbia and Essex Streets.

Alternatives 2, 3, and 4 include two towers, with varying heights in each alternative. These alternatives also assume that the project would be built on the City-owned parcels exclusively. Columbia Street would remain open and Essex Street would not be widened. Alternatives 5 and 6 assume the widening of Essex Street, the closure of Columbia Street, and the inclusion of the three privately-owned parcels. Alternative 5 includes two towers while the Developer's Proposal, Alternative 6, tests the impact of locating a single, tall tower on the southeastern corner of the site at the corner of Essex and Lincoln Streets.

Figure I-2 and Table I-1 compare the land uses proposed for Alternatives 2 through 6. All of the build alternatives feature a building complex with commercial office space as the predominate use and underground parking for 600 to 900 automobiles. Alternatives 2, 3, 4, and 5 also contain a hotel and small amount of retail space. Alternative 6 features office space, expanded retail space, and an atrium and pedestrian passage.

Figures I-3 through I-8 show the different design concepts and site coverage employed for each alternative.

F. Summary of Environmental Issues

This DEIR addresses specific environmental and socio-economic issues identified by the Massachusetts Executive of Environmental Affairs in the ENF Certificate, dated August 8, 1986 (Appendix A).

All six development alternatives were analyzed and compared, using a baseline year of 1993. The following environmental areas of concern were addressed:

Transportation
Air Quality
Noise
Utilities
Massing and Shadows
Aeronautics

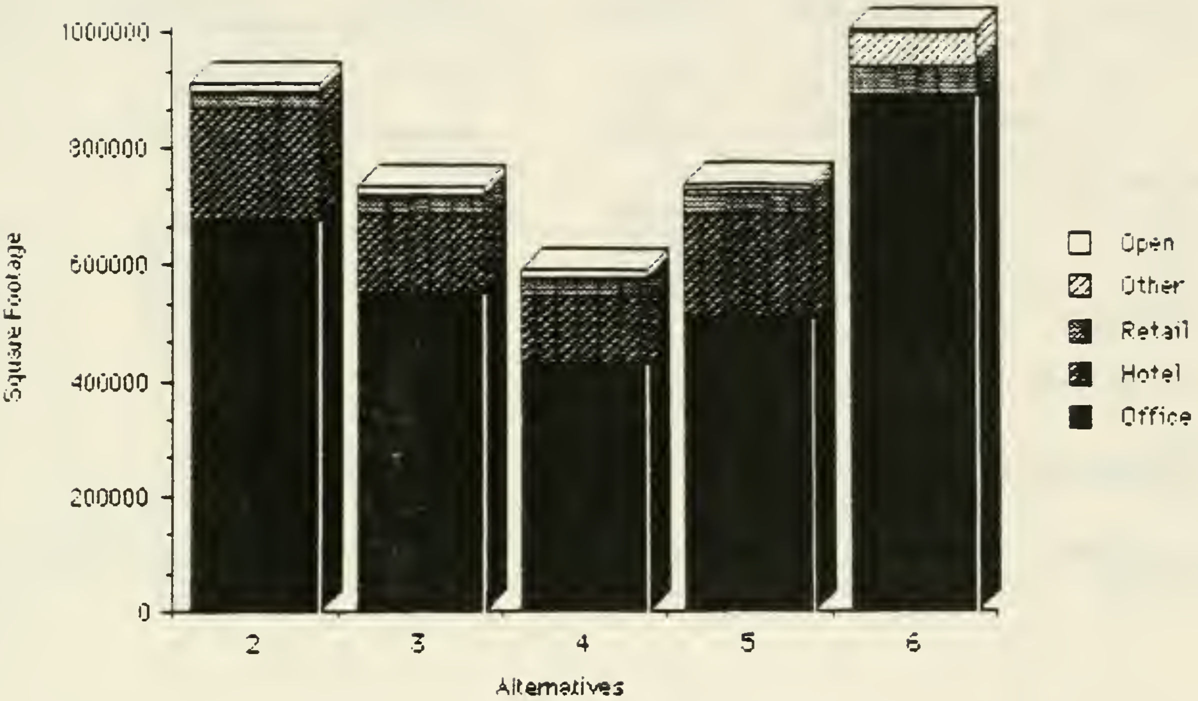

Figure I-2:
Proposed Land Use - Kingston-Bedford-Essex Street

TABLE I-1

Summary Comparison of Alternatives

Parameter	Alternative 2 400 Ft. Tower	Alternative 3 325 Ft. Tower	Alternative 4 250 Ft. Tower	Alternative 5 Expanded Sited	Alternative 6 Developer's Proposal
Site Area (Sq.Ft.)	48,174	48,174	48,174	75,664	75,664
Gross Square Footage	900,000	725,000	580,000	730,000	1,005,000
Land Use (Sq.Ft.)					
Office	679,000	554,000	429,000	510,000	892,000
Hotel	192,000	138,000	118,000	182,000	0
Retail	22,000	26,000	26,000	30,000	54,000
Lobby	7,000	7,000	7,000	8,000	59,000
Open Space	5,600	5,600	5,600	28,464	7,300
Parking Spaces	800	600	600	800	900
Towers	N.W.	N.W.	N.W.	no tower	S.E.
Tower Heights (ft.)	400	325	250	240	465
Floors	34	28	21	19	35
Columbia Street	Open	Open	Open	Closed	Closed
Essex Street	1 lane	1 lane	1 lane	2 lanes	2 lanes

KINGSTON-BEDFORD-ESSEX SITE

ALTERNATIVE 1

Parcel Size	48,174 sf
Garage site	27,427sf
Parking lot	20,747
Existing Use	
Garage	550 cars
Lot	130 cars

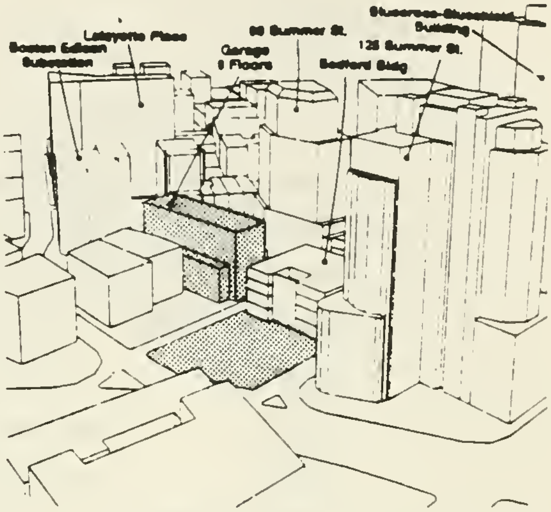

Figure I-3:
Alternative 1: No Build

KINGSTON-BEDFORD-ESSEX SITE

ALTERNATIVE 2

Parcel Size	48,174 sf
Program	900,000 gsf
Office	679,000 gsf
Hotel	192,000 gsf
Retail	22,000 gsf
Lobby	7,000 gsf
Open Space	5,600 sf
Parking	800 cars
Height	400', 250'
Floor Area Ratio	18.7

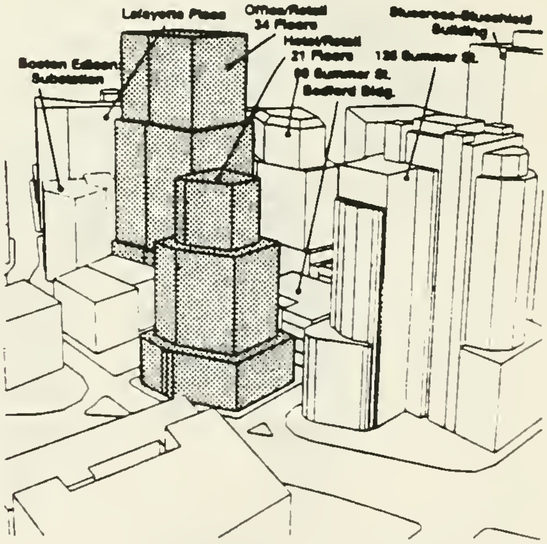

Figure I-4:
Alternative 2: 400 ft. Office Tower

KINGSTON-BEDFORD-ESSEX SITE

ALTERNATIVE 3

Parcel Size	48,174 sf
Program	725,000 gsf
Office	554,000 gsf
Hotel	138,000 gsf
Retail	26,000 gsf
Lobby	7,000 gsf
Open Space	5,600 sf
Parking	600 cars
Height	325', 200'
Floor Area Ratio	15

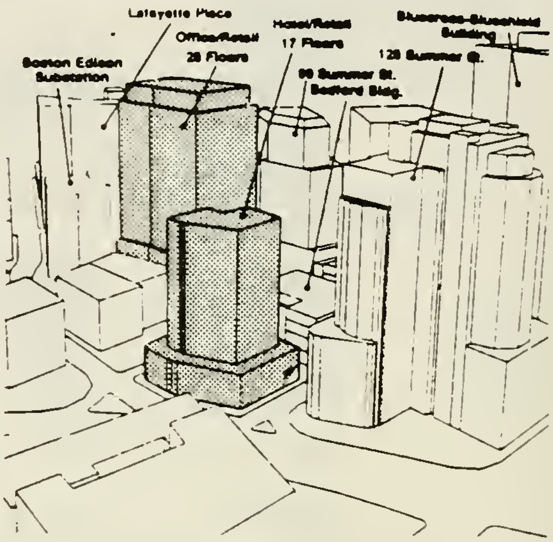

Figure I-5:
Alternative 3: 325 ft. Office Tower

KINGSTON-BEDFORD-ESSEX SITE

ALTERNATIVE 4

Parcel Size	48,174 sf
Program	580,000 gsf
Office	429,000 gsf
Hotel	118,000 gsf
Retail	26,000 gsf
Lobby	7,000 gsf
Open Space	5,600 sf
Parking	600 cars
Height	250', 150'
Floor Area Ratio	12

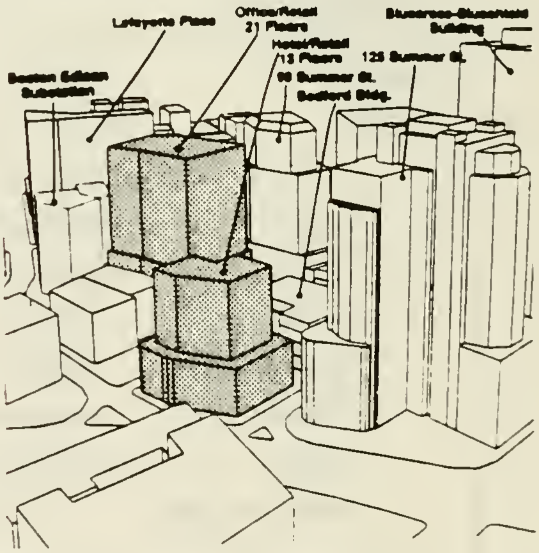

Figure I-6:
Alternative 4: 250 ft. Office Tower

KINGSTON-BEDFORD-ESSEX SITE
ALTERNATIVE 5

Parcel Size	75,664 sf
Program	730,000 gsf
Office	510,000 gsf
Hotel	182,000 gsf
Retail	30,000 gsf
Lobby	8,000 gsf
Open Space	28,464 sf
Parking	800 cars
Height	240', 200'
Floor Area Ratio	9.7

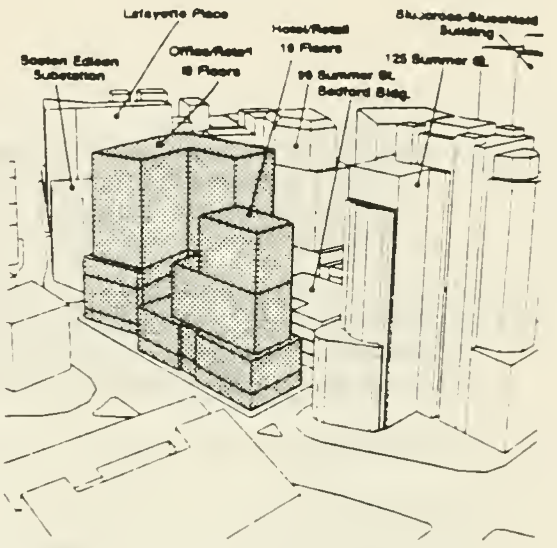

Figure I-7:
Alternative 5: Expanded Site

KINGSTON-BEDFORD-ESSEX SITE
ALTERNATIVE 6

Parcel Size	75,664 sf
Program	1,005,000 gsf
Office	892,000 gsf
Retail	54,000 gsf
Lobby/Atrium	59,000 gsf
Open Space	7,300 sf
Parking	900 cars
Height	465'
Floor Area Ratio	13.3

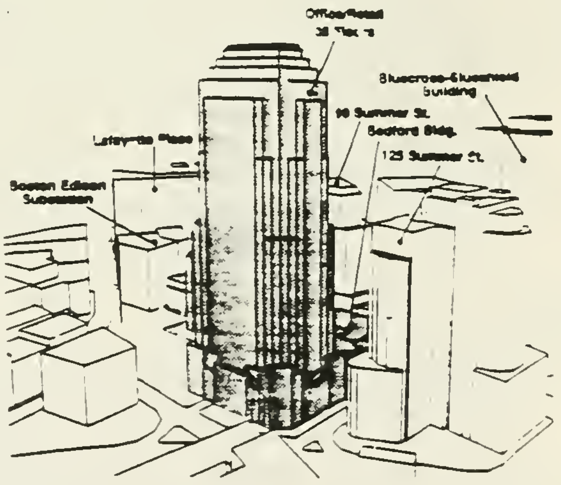

Figure I-8:
Alternative 6: Developer's Proposal

Wind
Historic and Archeological Resources
Open Space and Recreational Facilities
Social and Economic Issues
Construction

The purpose of this summary is to assist reviewers in assessing the major and most important impacts of the proposed alternatives and to highlight key mitigation measures which would minimize adverse impacts. For a more detailed discussion, reviewers should consult the appropriate sections of the main report.

Transportation

Traffic Impacts

The transportation situation in the area surrounding the Kingston-Bedford-Essex Street site is currently complex. Several projects, recently completed or in the advance stages of planning, are adding traffic into the area. These include One Financial Center and the 125 Summer Street office building, east of the project site, and Lafayette Place and its proposed expansion, Boston Crossing, the proposed Commonwealth Center, and 99 Summer Street, directly to the north. The Central Artery project is scheduled to commence construction in the project area in 1994. Current plans call for a southbound on-ramp to the Central Artery at the intersection of Essex Street, Lincoln Street, and the Surface Artery. The widening of Essex Street to accommodate two-way traffic is also under consideration.

The traffic assessment for this project takes into account other proposed developments and estimates the impacts directly associated with the development of the Kingston-Bedford-Essex Street project. To obtain a baseline profile of the current traffic situation, traffic operations were observed to evaluate levels of service (LOS) at eleven intersections in the study area during the morning and evening peak hours and during the Saturday peak hour. Level of service for signalized intersections is defined in terms of delay and is ranked from A to F, where LOS A represents a situation of little or no delay and LOS F represents breakdown conditions. From a traffic operations standpoint, LOS D is considered an acceptable condition in urban areas and represents conditions where the peak hour demands are less than the capacity of the roadway or intersection.

Current Conditions

Generally speaking, traffic is moving during morning peak hours at an acceptable level of service. During the evening peak hour period, the situation is decidedly worse, especially for the intersections along Essex Street. However, only one intersection (Essex-Kingston-Avenue de Lafayette) is operating below a LOS of D. During the Saturday peak period, southbound vehicles traveling on Harrison Avenue experience unacceptable delays at the intersection of Essex, Harrison, and Chauncy Streets (LOS F).

No Build-1993 Assumptions

For the No-Build analysis, the following roadway and development assumptions were adopted:

- Beach Street is closed at the Chinatown Gate; Kingston Street and Edinboro Street are open to the Surface Artery;
- Avenue de Lafayette is closed between Washington Street and Harrison Avenue Extension;
- Hayward Street and Avery Street directions are reversed;
- Phase I and II of the Boston Crossing Project are completed;
- Phase I of the Commonwealth Center is completed;
- the Lincoln Street Central Artery ramp is reversed to become a southbound on-ramp; and
- the Surface Artery is one-way southbound near the Kingston-Bedford-Essex Street project area.

Another project, the widening of Essex Street, is still under consideration. Because this project will significantly alter traffic patterns in the study area, traffic impacts were considered with and without a two-way widened Essex Street.

No Build Conditions/Existing One-Way Essex Street

The new Boston Crossing and Commonwealth Center projects will contribute a large increment of traffic to the area. These projects would rely on Bedford Street and Washington Street for access during the morning peak hour period. During the evening peak hour period, exiting traffic would produce significant pressures along and across the Essex Street corridor. Most of the congested intersections are not signalized but can be improved with appropriate mitigation measures.

Traffic operations can be improved to acceptable levels at the Essex-Surface Artery-Lincoln intersection through channelization within the existing right-of-way along the Essex Street approach (reserved right turn lane from Kingston Street to Surface Artery) and signal rephasing to facilitate right turns.

Traffic operations during the evening peak hour period at the Essex-Washington intersection can be improved to almost acceptable levels (LOS E, close to LOS D) with the installation of left turn and through direction pavement markings and through the institution and enforcement of peak-hour parking restrictions along the eastern Essex Street section between Washington Street and the Surface Artery.

Signalization is the assumed mitigation measure for the unsignalized intersections that operate poorly under No Build conditions. For these unsignalized locations, signalization would bring operating conditions to acceptable levels during all peak hour periods.

Development Project Impacts/Existing One-Way Essex Street

Traffic impacts were analyzed only for Alternative 2 because this alternative would generate the highest peak hour vehicular volumes. The analysis assumed that the No Build traffic mitigation measures have been instituted.

Under this worst case scenario, the traffic operations generally would remain within the same LOS designations as the No Build conditions during weekday peak hour periods. All intersections in the study area would operate within acceptable traffic conditions except the intersection of Essex and Washington Streets, which in the PM peak hour would operate at LOS E.

The project does create a problem at the garage exit along Kingston Street. Here, traffic would operate at LOS E during the evening peak hour period. However, the proximity of the signalized intersections of Bedford-Kingston and Essex-Kingston-Avenue de Lafayette would provide sufficient gaps within the traffic stream to lessen this delay.

No Build Conditions/Proposed Two-Way Essex Street

The Essex Street roadway improvement provides for two-way traffic along Essex Street from Kingston Street to Atlantic Avenue. The widening of Essex Street has been under study for some time by the City. Although there are no final plans to widen the street, past development projects have accommodated the potential reconstruction. Five hundred feet of Essex Street between Atlantic Avenue and the Surface Artery was reconstructed as a two-way roadway with two continuous travel lanes in each direction and curb service lanes where possible. This section of the widening was completed in coordination with the construction of One Financial Center.

Additional work would need to occur to complete the widening, including the following measures:

- provision of revised signalization at the intersection of Essex Street with the Surface Artery;
- acquisition and removal of the two five-story brick buildings at the northeast corner of the Essex-Kingston intersection; and
- reconstruction of 350 feet of Essex Street between the Surface Artery and Kingston Street as a two-way roadway with two travel lanes in the westbound direction and with two through travel lanes and a right turn lane in the eastbound direction.

Assuming that the mitigation measures needed for a one-way Essex Street were implemented, the most significant shifts in traffic resulting from the two-way Essex Street improvement would be the following:

- expected increases in traffic along Avenue de Lafayette approaching Chauncy Street;
- traffic increases along Harrison Avenue between Avenue de Lafayette and Beach Street. These appear high when expressed as a percentage increase due to the low volumes of existing traffic along this section of

the roadway. The increases are mostly a result of improved access to Chinatown via two-way Essex Street;

- significant decreases in traffic volumes along Bedford Street, Summer Street (westbound) between South Street and Lincoln Street, and southbound along Chauncy Street between Bedford Street and Avenue de Lafayette;
- smaller decreases in traffic volumes north of the Surface Artery along Lincoln Street, South Street, and Summer Street (westbound);
- decreased volumes along Essex Street eastbound between Tremont Street and Washington Street, particularly in the AM peak hour, due to the fact that traffic destined for Boston Crossing or Commonwealth Center parking garages can approach the area from the south by using New Essex Street westbound to Avenue de Lafayette westbound rather than Kneeland Street to Washington Street and then to Avenue de Lafayette eastbound; and
- decreased traffic volumes along Chauncy Street north of Essex Street to Avenue de Lafayette and on Washington Street between Kneeland Street and Avery Street.

Development Project Impacts/Proposed Two-Way Essex Street

For the 400 ft. tower alternative, the average expected delay at each location would improve over the existing Essex Street case during all peak hour periods, as follows:

- Summer-Lincoln-Bedford improves from LOS D to LOS C during the evening peak hour period;
- Bedford-Chauncy-Lafayette Place Garage intersection improves from LOS C and LOS D during the morning and evening peak hours respectively to LOS B during both peak hour periods; and
- Essex-Washington improves from LOS E to LOS D during the evening peak hour period.

In summary, the deficient intersections are currently unsignalized. The installation of signals would remedy the deficiencies in most cases. Re-striping, parking restrictions, and signal timing changes would give adequate relief in most other cases with the changes satisfying both the no-build and the critical alternative (400 ft. tower) situations in the 1993 analysis year.

Comparison of Conditions with Mitigating Measures

Table I-2 shows a comparison of existing, No Build, and Development traffic impacts at key intersections with and without a widened Essex Street. The No Build volumes associated with other projects and general growth add the greatest demand to the study area streets. The addition of the Kingston-Bedford-Essex Street project traffic does not change level of service significantly.

The major problem area would be at Essex-Surface Artery-Lincoln for two-way Essex Street, where LOS of F and E would occur during both the AM and PM peak hours for both no-build and build conditions. These levels of service could

TABLE I-2

COMPARISON OF LEVELS OF SERVICE AT KEY SIGNALIZED INTERSECTIONS

Intersection/	Existing		No-Build				400 Ft. Tower Build			
			1-Way Essex		2-Way Essex		1-Way Essex		2-Way Essex	
Analysis Period	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Summer-Lincoln-Bedford										
AM Peak Hour	B	8.8	B	11.8	B	8.9	B	11.6	B	9.1
PM Peak Hour	B	10.5	D	29.2	C	17.1	D	33.1	C	17.7
Bedford-Chauncy-LP Garage										
AM Peak Hour	A	(1)	C	16.0	B	8.6	C	23.9	B	9.2
PM Peak Hour	A/B	(1)	D	25.2	B	9.8	D	29.5	B	11.6
Essex-Surf. Art.-Lincoln										
AM Peak Hour	C	15.1	C	17.1	F	81.2 (2)	D	29.7	F	89.2 (2)
PM Peak Hour	C	18.8	F	74.1	E	48.7 (2)	D	32.8	E	58.7 (2)
Essex-Kingston-Lafayette										
AM Peak Hour	A/C	(1)	B	7.0	B	6.4	B	7.6	B	7.2
PM Peak Hour	D/F	(1)	B	9.8	B	10.6	B	10.7	B	12.5
Essex-Washington										
AM Peak Hour	B	8.3	B	12.7	B	10.1	B	13.6	B	11.7
PM Peak Hour	B	8.8	E	41.6	D	28.5	E	45.0	D	30.6

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(1) Existing intersection unsignalized.

(2) These LOS would improve by one level if the plan for a one-way widened Surface Artery were implemented. Also, if two-way Essex were confined to the west of the Surface Artery (without a one-way Surface Artery), LOS would be D +/-, if northbound Surface Artery left turns were restricted.

NB: Analysis assumes implementation of signalization and roadway improvements to improve traffic flow.

be improved if the two-way section of Essex Street proposal were coupled with widening the Surface Artery and making it one-way southbound.

Apart from the Essex-Surface Artery-Lincoln intersection, two-way Essex Street would provide benefits at most other intersections, including that at Essex and Washington Streets, which suffers from low levels of service.

Conclusions

The Kingston-Bedford-Essex Street project would be a relatively small contributor to traffic in the area. New demands from this project would concentrate primarily on the Surface Artery corridor near the Expressway and Turnpike ramp connections. Consequently, the accommodation of the project within its time frame is possible without major street alterations.

By itself, the Kingston-Bedford-Essex Street project would not require the widening of Essex Street for two-way operation. Two-way Essex Street is, however, a desirable project, particularly as a feeder for new development projects to the west (e.g., Boston Crossing, Commonwealth Center, Midtown Cultural District), and as a relief to Beach, Bedford, and Summer Streets.

The evaluation of this project demonstrates the necessity for a close examination of the traffic needs in a wider area. Some type of traffic master planning action is required for the proper comprehension of the cumulative traffic needs, coordinated with the expectations of major planned transportation actions such as the Central Artery/Third Harbor Tunnel project.

Parking Supply and Demand Impacts

The proposed project would eliminate a total of 731 spaces currently existing on the site. Today, most of these spaces serve long-term commuter parking due to the relatively low rates at the mechanical garage.

No Build background development forecasts a peak parking demand in the area for 2,900 spaces, versus an anticipated supply of 1,700 spaces. Thus, there would be a No Build deficit of 1,200 spaces.

For the Kingston-Bedford-Essex Street development options, on-site supply would exceed project demand by 90 to 175 spaces for all options except the 325 ft. Tower alternative, which would have a deficit of only 13 spaces. When the need for replacement parking for the 731 spaces displaced from the site is added to the project demand, however, the deficit ranges from 558 to 744 spaces.

These figures must be interpreted within the context of overall downtown parking policy, which has sought to limit the availability of commuter parking downtown in order to free spaces for visitor use and encourage alternative modes of access.

Public Transportation Impacts

The project is well located with respect to the MBTA rapid transit, express bus, and commuter rail system.

Both No Build and development options would add up to 2-3 additional carloads of passengers per line to the rapid transit system. Given the MBTA's ongoing efforts to add peak hour capacity, the additional demands from any of the options should be able to be reasonably handled by the system.

Pedestrian Impacts

By adding ground level retail activity and providing sheltered walkways through the site, the proposed project would improve pedestrian amenity in what has been an unattractive area in the past. Primary pedestrian flows would occur to and from the site and Downtown Crossing and to and from South Station. The most critical crossing locations are those along the Surface Artery, where traffic flows are the heaviest.

Air Quality

In 1984 carbon monoxide concentrations (CO) in the Essex Street area exceeded that allowed by the National Ambient Air Quality Standards (NAAQS). By 1985 the ambient levels of carbon monoxide were within the Federal and State standards. The primary sources of CO are automobiles, trucks, and buses. Consequently, estimates of air quality impacts from the Kingston-Bedford-Essex Street project were linked to estimates of new traffic generation.

Computer modeling, based on peak flow traffic assumptions, was employed to predict 1993 motor vehicle CO emissions. The increase in CO emissions resulting from the proposed development is not expected to exceed the NAAQS for either the one-hour or the eight-hour period at any of the several sensitive receptor locations analyzed. Any increase in emissions in this area would be mitigated on a general basis as a result of improvements in motor vehicle emissions required by the Federal Motor Vehicle Control Program. On a local level, the improvements in the Central Artery to allow for greater efficiency in traffic flow, the construction of the Third Harbor Tunnel to provide for the diversion of some traffic flow, the widening of Essex Street, and other improvements in traffic flow in and around the project site would contribute to the minimization of CO emissions. Thus, the CO emissions in this area are expected to continue to remain within acceptable levels for the foreseeable future.

Noise

Noise in the project area is created by motor vehicle traffic on the Surface Artery, the Central Artery, and local streets; by aircraft from Logan Airport; by building mechanical systems; and by construction equipment. These sources are typical of an urban environment and create relatively high noise levels. Noise sensitive land uses in the vicinity of the project site include residential buildings south of Essex Street. Existing noise levels along Essex Street are estimated to be 62 dBA (Leq), while levels adjacent to the Surface Artery range from 74 to 78 dBA (Leq).

Estimates of the potential traffic-related noise impacts along Essex Street were assessed for the 1993 No-Build Alternative as a basis for comparison with the build alternatives.

Traffic along Essex Street is expected to increase by 64 percent by 1993 and would result in a noise level of 64 dBA (Leq). This 2 dBA increase over the existing level would not be noticeable. Reconstruction of Essex Street to accommodate two-way traffic would result in an additional 1 decibel increase in noise. This increase translates to 3 decibels over 1988 existing conditions, which also would be an imperceptible impact. Increases of less than 5 dBA are considered to be barely perceptible to the human ear.

Due to projected insignificant increases in noise levels, no specific mitigation measures for traffic generated by the alternatives would be required. However, operational policies which would reduce peak hour traffic volumes (e.g., van pools, car pools, transit ridership, etc.) would contribute to minimizing the overall potential adverse effects of noise on sensitive land uses from the Kingston-Bedford-Essex Street project.

Utilities

electricity

Water, sewer, electric, steam, and gas distribution systems are in place for the Kingston-Bedford-Essex Street site. Preliminary analysis suggest that the existing gas, sewer, and water distribution systems would be adequate to accommodate the requirements of any of the proposed build alternatives. Substantial development in the vicinity of the project has prompted Boston Edison Company to plan additional primary power conduits.

The Massachusetts Building Code requires the installation of energy-efficient appliances and the use of energy-efficient building materials and building practices. These efficiencies would reduce the overall impact the Kingston-Bedford-Essex Street development would have on fuel and electric supplies.

Boston's water supply problems persists. While the amount of additional water required to satisfy the needs of the proposed development is relatively small, this small addition would have an adverse impact on the already overdrawn Quabbin/Wachusetts Reservoir system. To mitigate this impact, compliance with the Commonwealth of Massachusetts Plumbing Code is essential, along with on-site conservation and efficiency in use of the water supplied to the project area.

? S. in Essex

Because Boston's sewer system consists of combined storm and sanitary drainage, the system typically reaches capacity during intense or prolonged rainfall. Near the Kingston-Bedford-Essex Street site, the sewer system is very old and generally built of brick. Continued rehabilitation and replacement of trunk sewers would reduce the impact of sewer overflows into the surface waters surrounding Boston.

Massing and Shadow

The Kingston-Bedford-Essex Street site is located in a transition zone between the Financial District and Chinatown. The massing analysis addresses how to best express this transition in architectural terms.

The visual quality of the existing garage and surface parking lot is poor. All of the build options would constitute an improvement by creating a better street definition, integrated use of materials and colors, and aesthetically pleasing site organization and building designs. The site currently lacks positive streetscape features. The parking lots appear uncontrolled in terms of traffic management, fencing, and screening.

An urban design analysis of the five build alternatives has investigated the effects of tower height and placement, as well as the overall massing of the project. Alternatives 2, 3, and 4 are sited only on land currently occupied by the Kingston-Bedford garage and the Lincoln-Essex parking lot. Each of these alternatives has two towers -- an office building located on the garage site and a hotel located on the parking lot. These alternatives test various heights for each building, ranging from 250 feet to 400 feet for the office tower and 150 feet to 250 feet for the hotel. In terms of massing and height, the size of the site in each case constrains the design of the office tower so that there are insufficient setbacks for an area with narrow streets and relatively low buildings. The height of the tower itself seems less significant than the lack of setbacks, particularly near 99 Summer Street. The hotel in each case is lower than the office tower in an attempt to make a transition to the lower structures in Chinatown, with Alternative 4 doing so more successfully than the taller schemes.

Alternatives 5 and 6 are located on a larger site, including all of the block except the Bedford Building. Alternative 5 continues the two-tower scheme of Alternatives 2, 3, and 4 but has the lowest office tower at 240 feet. The expanded site enables the office tower to have larger floorplates than the first three alternatives and also provides the flexibility to set the tower further back from the street. Alternative 6 is even more successful in relating to the low-rise structures at the Kingston and Bedford Streets intersection. With an expanded site and single tower, the massing is redistributed in such a way that the base of the building replicates the existing low-rise buildings. This requires that the tower, which is the tallest of any of the alternatives, be sited close to the Central Artery, in contrast to the design principles inherent in the other alternatives whereby the greatest mass is located on the Kingston-Bedford site.

All of the proposed build alternatives would cause varying degrees of change to the existing shadow environment and would affect several adjacent pedestrian areas by introducing a net increase in shadows. However, due to the intensely built-up character of the project environs, existing shadows already cover much of the area and relatively little additional shadow would be created by the project, except along Bedford and Columbia Streets. Some additional shadow would fall on the Boston Common from Alternatives 2 and 6 during winter mornings.

Aeronautics

The most significant building characteristic affecting helicopter flight paths is height. The tallest existing buildings in the vicinity of the project rise to a height of approximately 600 feet. Since these buildings are higher than any proposed for the Kingston-Bedford-Essex Street development, the project is not likely to have a negative impact on existing helicopter flight paths or interfere with any proposed flight paths or heliport sites.

Wind

A qualitative assessment of pedestrian level wind conditions was undertaken to determine the impact that the five build alternatives would have on the local wind environment. This assessment was based on a review of long term wind records from Logan Airport, information from previous wind studies of 125 Summer

Street, concept designs of the five development alternatives, knowledge of the aerodynamics of buildings, and numerical modeling of the local wind environment.

Table I-3 provides a subjective comparison of the wind climate anticipated around the six development alternatives. The following discussion summarizes the findings for each alternative.

Alternative 1 - No-Build

Wind speeds comfortable for the intended pedestrian activities are expected on Kingston, Essex, and Columbia Streets. On Bedford Street, however, strong upper level winds would interact with 99 Summer Street and create less comfortable pedestrian level wind conditions. On Lincoln Street, upper level winds deflected downward by 100 and 125 Summer Street result in uncomfortable wind conditions, which, in some cases exceed Boston Redevelopment Authority criteria.

Alternative 2 - 400 ft. Office Tower

Wind speeds significantly higher than existing conditions, are expected along Bedford, Kingston, and Columbia Streets, in the pedestrian area south of the Bedford Building, and at the south end of Lincoln Street. Wind speeds in each of these areas may be uncomfortable for intended activities. There is the potential for wind speeds to exceed BRA guidelines at the building corners. Wind conditions will improve slightly at the north end of Lincoln Street, while conditions similar to existing site conditions are expected on Essex Street.

Alternative 3 - 325 ft. Office Tower

The 75 foot reduction in the height of the office tower from that of Alternative 2 is not expected to alter significantly pedestrian level winds. On the south end of Columbia Street, in the pedestrian area south of the Bedford Building, and on Lincoln Street, the reduced floor plate for the hotel/retail tower (when compared to Alternative 2) and the podium would lessen the impact of development on the pedestrian level wind conditions in those areas. Some of the wind shelter provided to the north end of Lincoln Street for Alternative 2 would be lost, as the smaller tower would not be able to block as much wind.

Alternative 4 - 250 ft. Office Tower

Wind speeds and wind comfort levels for this alternative would be similar to Alternative 3. The reduction in the office tower height when compared to Alternative 2 may be enough to lessen the impact of the development on the wind conditions on Kingston and Bedford Streets and parts of Columbia Street. However, wind speeds would remain well above the levels that presently exist and are likely to be uncomfortable for pedestrians.

Alternative 5 - Expanded Site

This alternative would increase wind speeds on Kingston, Essex, Columbia, Bedford, and Lincoln Streets. Generally, the lower buildings would deflect less wind to the street, but these benefits would be off-set by the broader building facades

AREA OF CONCERN	ALTERNATIVE					
	1	2	3	4	5	6
Kingston	○	●	●	◍	●	○
Essex	○	○	○	○	●	●
Essex-Surface Artery	○	●	○	○	●	●
South end of Lincoln	◍	●	◍	◍	●	●
North end of Lincoln	●	◍	◍	◍	◍	◍
Bedford Street	◍	●	●	◍	●	○
North end of Columbia	○	●	●	◍	○	○
South end of Columbia	○	●	◍	◍	●	N/A
Bedford Building Plaza	○	◍	◍	◍	○	N/A

●	**POOR**	Strong winds which are likely uncomfortable and could exceed BRA guidelines. Mitigation will be required.
◍	**FAIR**	Accelerated winds noted for some directions and conditions may be uncomfortable for some activities. Some minor mitigation may be required.
○	**GOOD**	Areas of wind shelter or slower wind speeds. Acceptable wind conditions are anticipated.

Table I-3
Summary of Pedestrian Level Wind Conditions: Qualitative Analysis

for this alternative. Uncomfortable winds could be anticipated in most areas around the site.

Alternative 6 - Developer's Proposal

This design alternative would slightly improve pedestrian level winds at the north end of Lincoln Street and on Bedford and Columbia Streets. Winds which are similar to existing conditions may be expected on Kingston Street. Wind speeds which are higher than the no-build condition and winds which are uncomfortable for intended activities could be expected on Essex and Lincoln Streets.

Mitigation measures in the form of landscaping and architectural details can improve wind conditions. As part of the Final EIR, quantitative wind speed measurements in a boundary layer wind tunnel are recommended to define accurately the no-build wind conditions and to quantify the impact of the selected development alternative.

Historic and Archeological Resources

The project site is located in an area of downtown Boston that has a number of historic buildings and districts. To the north of and adjacent to the site is the Commercial Palace District. To the south of the site is the Kingston-Essex Textile District, and to the southeast is the Leather District.

There are no structures on the site which are Boston City Landmarks or are individually eligible for listing or are listed in the National or Massachusetts Registers of Historic Places. However three historic structures in the vicinity may be affected by the proposed development. They include the Church Green Building, the Bedford Building, and the Proctor Building, all of which are registered landmarks. Two other buildings, 80-86 Kingston Street and 88-100 Kingston Street, are included in the project site for some of the alternatives. Although individually these buildings have been determined not to be eligible for National Register listing, the Boston Landmarks Commission has characterized them as contributing structures to the Kingston-Essex Street Textile District, in which they are located.

All of the build options would have an effect on the surrounding historic resources. However, as long as the detailed design of a selected alternative incorporates elements to mitigate those impacts, then any of the build options would have more beneficial impacts on these resources than the No Build Alternative.

To emphasize the historic character of the area, detailed project design should incorporate features of the nearby historic structures and of the Commercial Palace and Kingston-Essex Street Textile Districts in the choice of building height, materials, fenestration and facade, setbacks, and mass. If the bases of the proposed structures are similar in height to the nearby historic structures, and have similar setbacks, similar facades, and compatible materials and design characteristics, potential adverse effects of the project on the historic surroundings should be mitigated.

The project site may contain significant subsurface archaeological resources relating to prehistoric Indian occupation and/or the earliest European settlement of the area. As a result, any development of this site could significantly affect archaeological resources, since all the build options entail substantial excavation

⑥ + evening hours
→ Traffic
→ resident schedule

Monitors — groundwater
— noise (is spot check)
+ worker schedule / residen[illegible] [illegible] area

after construction hours

? Edison building

for subsurface parking. To ensure that any potential archaeological resources are not unnecessarily disturbed or destroyed in the development process, it is recommended that an archaeological reconnaissance survey be conducted and the results included in the Final Environmental Impact Report.

⑦ location of staging area
? Columbia

Open Space and Recreational Facilities

The No Build alternative would have no beneficial impacts on open space nor provide opportunities for recreation. There are no facilities on the site for passive or active recreational activities, and the open space that does exist contains no improvements. The site in its current condition lacks pedestrian corridors and thus poses some danger to pedestrians from vehicles entering or exiting parking lots.

? sidewalk / property [illegible]
pack about to out.

⑤ + pile driving
alternatives
*? tie back
*? up down
not [illegible]

All of the build alternatives would significantly enhance open space and recreational facilities by adding public plazas, pedestrian corridors, lobbies, arcades, and landscaping. Alternatives 5 and 6 also include the widening of Essex Street and the closing of Columbia Street, thereby creating pedestrian areas more protected from traffic. Alternative 6 also proposes a multi-story public atrium, a retail arcade, and a pedestrian network which would add to the pedestrian amenities in the area.

e.g. Financial

? Tunnel for Greenline

Social and Economic Issues

In the past, economic development in Boston's disadvantaged neighborhoods has brought short-term benefits without creating an enduring and strong economic base. The Kingston-Bedford-Essex Street project is designed to reverse this trend and to respond to the community's need for employment, community facilities, and housing.

② Management?
underparking
off-site
Chinatown Streets
→ Pedestrian movement

The creation of construction and permanent jobs would go hand-in-hand with training programs, community outreach, and affirmative action. The developers also will participate in the construction of affordable housing and contribute substantial funds to a Community Development Fund.

The development program also calls for a minimum of 30 percent of all development-related consultant contracts be targeted to certified minority- and women-owned businesses. In addition, the developers will work with public and private agencies to provide technical assistance to minority businesses and encourage the formation of a small business incubator program.

Finally, the terms of this linkage program require that the developers construct a child care facility for 100 children on a site near or in Chinatown.

④ Noise *
temporary
→ [illegible]
→ 8 [illegible]
Fall 87
→ '92
Staging area on site

Construction

enforcement (responsible party ?)

All build alternatives would result in temporary adverse impacts in the vicinity of construction activity. These include:

- bldg dept
- Transportation dept
noise monitors

- a temporary increase in on-site noise levels from operation of construction equipment;
- potential periodic disruption of pedestrian and vehicular flows;
- temporary increase in pollutant emissions from on-going construction operations; and

① tracking [illegible]

⑦ police Traffic [illegible] 150* construction management plan
enforcement

→ MDPW central // K/B ...
vicinity of groundwater level

? Boston Blue Clay ± 50 deep

- potential lowering of groundwater levels due to dewatering efforts.

Most of the above impacts would be of short duration and negligible. Nevertheless, careful construction management planning would be required to minimize these impacts. This planning would include coordination of construction schedules, truck routing, and staging areas between Kingston-Bedford-Essex Street and other projects in the area. Construction equipment should be outfitted with noise attenuation devices. Groundwater levels should be carefully monitored during excavation, and any silt should be removed from the withdrawn groundwater before it is discharged into the storm drain system. Finally, the plan should include procedures for reducing dust, debris, and emissions during construction.

measuring area of impact in the surrounding areas

G. Conclusions

The analysis of all the environmental and socio-economic factors yields one preeminent conclusion: the proposal to develop the Kingston-Bedford-Essex Street site for commercial and retail use offers many advantages over the current use of the land for parking.

protection for existing Busin/Residents

- The project will offer new employment and business opportunities for the Downtown and nearby Chinatown.
- Use of the land for office space, retail stores, and possibly a hotel will result in a higher tax base for the City.
- The project will significantly improve the visual quality and safety of the area by adding better street definition, new public spaces, a network of pedestrian walkways, and the opportunity for a building design which blends with the rich historical character of the area.
- The project does not require any major changes to the transportation or utility infrastructure. The widening of Essex Street will improve traffic flows, but it is not a required element of this project.
- All of the build alternatives will have a minimal impact on traffic, noise, and air quality.
- The project will reduce the number of parking spaces available for all-day commuter parking. However, this is consistent with a City of Boston parking policy which has sought to limit the availability of commuter parking downtown.
- The community benefits package associated with this project and the development of Parcel 18 exceeds those proposed for any project to be built in Boston.

whose responsibility :

regular report to BRA groundwater [illegible]

part of construction management plan

The analysis of alternatives was designed to test key parameters of the project. The most important parameters were:

- height, location, and number of the office towers;
- overall size of development;
- site coverage; and
- disposition of Essex and Columbia Streets.

? Recourse ?

avenue

→ liability insurance ?

- groundwater management plan ?

? → direct rebuttal

? → indirect rebuttal

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By structuring the alternatives to isolate and analyze these factors, no single alternative has surfaced as preferred over all others. What has emerged is a set of recommendations to guide the final design of the project.

- From the standpoint of visual quality, location of the tower at the corner of Lincoln, Essex, and Columbia Streets and the lower building elements on the Kingston-Bedford block successfully addresses the transition from the Financial District to Chinatown.
- Development may degrade the wind conditions at pedestrian level, especially around building corners and major street intersections, especially if it is not properly designed. Landscaping and architectural details, if properly applied, can modify these wind impacts. Quantitative wind speed measurements need to be taken as part of the Final EIR and the results incorporated into the final building design.
- Use of the private parcels affords greater opportunity to increase site coverage, to lower building heights, and to better integrate the development with the existing area.
- The closing of Columbia Street provides the opportunity to create additional pedestrian open space and reduce traffic-induced noise.
- Normal traffic growth in the area will create unacceptable levels of congestion, independent of whether or not this project is built. Additional traffic signals and other appropriate mitigation measures can improve the situation and should be implemented within the next five years.